

REMARKS/ARGUMENTS

Claims 1-3 are pending. Claim 1 has been amended. No new matter has been added.

The Examiner asserts that Fig. 1 should be designated as -- Prior Art -- because only that which is old is illustrated. Applicants disagree. The Examiner points to MPEP § 608.02(g). This section relates to "prior art." In the present application, Fig. 1 is referred to as illustrating "a conventional power device," not "a prior art power device." A conventional device is a device that is known to the inventor prior to his/her invention and is conventional to the inventor; however, this does not mean that it was known to the public prior to his/her invention. Accordingly, Fig. 1 should not be designated as -- Prior Art --. If the Examiner feels otherwise, Applicants ask the Examiner to substantiate his/her assertion that only what is old is disclosed in Fig. 1. Upon such substantiation, Applicants would be happy to designate Fig. 1 as -- Prior Art --.

The drawings were objected to as failing to comply with 37 CFR § 1.84 (p)(5). The Examiner asserted that numeral 7(b) needs to be inserted into Figs. 1, 3-4, 6, and 8 to indicate the n+ layer. Applicants disagree. Paragraph 34 states, "Generally, an n+ region 7(b) is defined inside the layer 5 for thyristor." That is, a thyristor may or may not have the n+ region provided inside the layer 5. Accordingly, the above figures do not need to include numeral 7(b). In addition, Figs. 4, 6, and 8 illustrate diodes, not thyristors. To expedite prosecution of the present application, Fig. 3 has amended to include numeral 7(b).

Claim 1 and 3 were rejected under 35 U.S.C. § 102(b) as being anticipated by Nakagawa et al. Applicants traverse the rejection.

Claim 1 recites, "a semiconductor substrate of first conductivity having an upper surface and a lower surface; a first electrode terminal coupled to a first conductive region provided proximate the upper surface of the substrate, the first electrode terminal being provided over the upper surface of the substrate; a second electrode terminal coupled to a second conductive region provided proximate the lower surface of the substrate, the second electrode terminal being provided below the lower surface of the substrate; an isolation diffusion region of

second conductivity provided at a periphery of the substrate and extending from the upper surface to the lower surface of the substrate, the isolation diffusion region having a first surface corresponding to the upper surface of the substrate and a second surface corresponding to the lower surface; and a peripheral junction region of second conductivity formed at least partly within the isolation diffusion region and formed proximate the first surface of the isolation diffusion region, the peripheral junction region being electrically isolated from the first electrode terminal and separated from the second electrode terminal by the isolation diffusion region, wherein the peripheral junction region is different than the first and second conductive regions."

Nakagawa does not disclose the peripheral region in the manner recited. The Examiner asserts that n+ region 34 of Nakagawa corresponds to the peripheral junction region of claim 1. Applicants disagree. Claim 1 recites that the first and second electrode terminals are coupled to first and second conductive regions, respectively. Claim 1 further recites that "the peripheral junction region is different than the first and second conductive regions." Nakagawa discloses the n+ region 34 that is electrically coupled to the cathode K. Accordingly, the n+ region 34 corresponds, if any, to the first or second conductive regions in claim 1. The n+ region 34 of Nakagawa does not correspond to the peripheral junction region, as recited in claim 1.

Moreover, Nakagawa does not disclose "the first electrode terminal being provided over the upper surface of the substrate." Nakagawa does not disclose "the second terminal being provided below the lower surface of the substrate." Nakagawa also does not disclose "the peripheral junction region being electrically isolated from the first electrode and separated from the second electrode terminal by the isolation diffusion region." Claim 1 is allowable at least for the reasons set forth above.

Claim 2 was rejected under 35 U.S.C. § 103(a) as being obvious over Nakagawa. Applicants traverse the rejection. Claim 2 depends from claim 1 and is allowable at least for this reason. In addition, Applicant submit that it would not be obvious for a person of ordinary skill in the art at the time of the invention to make use of "a peripheral junction region being P+ region," as the Examiner asserts. The n+ region 34 of Nakagawa is a conductive region that is

coupled to an electrode and is not a peripheral junction region in the manner recited. Applicants objects to the judicial notice taken by the Examiner.

Applicant requests reconsideration of the Restriction Requirement for the reasons set forth in the amendment dated October 14, 2004. A relevant portion of that amendment is reproduced below for the Examiner's convenience.

Claims 4-25 were restricted out by the Examiner. Applicants objects and requests reconsideration by the Examiner. The Examiner states, "The traversal is on the ground(s) that the application contains only 5 more dependent claims than that allowed by the basic filing fee, and examining 25 claims is not serious burden on the examiner. This is not found persuasive..." This is only one of the reasons provided as the grounds for Applicant's traversal. Arguably more important reason, which was provided as the first argument, is that the Restriction Requirement is improper since one or more generic claims exists for the alleged multiple species identified the Examiner. Independent claim 1 is broad enough to include all the alleged species identified by the Examiner so is a generic claim. For example, claim 1 reads on each of the alleged species. Similarly, each of independent claims 21 and 25 are broad enough to include the alleged species and are generic claims to the alleged species.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

Appl. No. 10/188,164
Amdt. dated July 1, 2005
Amendment to RCE

PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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Attachment
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Amendments to the Drawings:

The attached sheet of drawing includes changes to Fig. 3. This sheet, which includes Figs. 3, 4, and 5 replaces the original sheet including Figs. 3, 4, and 5.

Attachment: Replacement Sheet